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Integrating information literacy into curriculum: a tool for developing an evidence-based approach to nursing practice

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Abstract

Students need to become skilled and confident life-long learners in order to provide safe and effective nursing care. The information literacy program described in this article, is the first step towards equipping our students to be life-long learners.

*Integrating
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Students need to become skilled and confident life-long learners in order to provide safe and effective nursing care. The information literacy program described in this article, is the first step towards equipping our students to be life-long learners.

Evidence-based practice in nursing

Current nursing practice is based on a mixture of tradition, anecdote, research and intuition. Some nursing practices are effective, while others do harm. Evidence-based practice (EBP) is defined as the conduct of health care according to the principle that all interventions should be based on the best available scientific evidence. Proponents of evidence-based practice aim to encourage nurses to use what has been shown to work, and discard what has been shown to do harm. Surprisingly, this principle has not received much prominence in the traditional teaching and practice of nursing. Until recently, the model for teaching undergraduate nursing students aligned with the paradigm governing medical education which placed high value on unquestioned traditional scientific authority and adherence to 'standard' approaches to clinical problems (Evidence-Based Medicine Working Group, 1992). This model has been criticised for its lack of scrutiny of clinical research.

The Bachelor of Nursing program is principally designed to prepare graduates to provide safe, effective nursing care in a variety of health care settings. In order to provide highly individualised and effective solutions for their patients, nurses have to be able to solve complex problems, meet competing demands with finite resources and use a sophisticated knowledge base in an environment where scientific knowledge and technology are constantly changing.

To prepare nursing students to deal with the information explosion, thoughtful curriculum development and instruction are required. Students need to be provided with opportunities to develop the knowledge and skills they require to become proficient problem-solvers. Our graduates will know how, when and where to find the answers to their questions. That is, our graduates are going to become educated connoisseurs of research: practitioners who are aware of information, know how, where and when to access information and can appreciate it and apply it in an appropriate and timely fashion.

The fundamental philosophy of teaching nursing is changing from one of indoctrination (do as I say) to one of informed scepticism (learning strategies to deal with uncertainty in knowledge). The skills required of evidence-based health care practitioners, including registered nurses, should ideally

be developed during their vocational education. In order to assist students to develop skills which will enable them to become informed sceptics and evidence-based practitioners, the Department of Nursing is providing an integrated information literacy program within the Bachelor of Nursing. The first phase of this program, which focuses on information searching skills, is outlined below.

The Information Literacy Program

Information literacy skills are being integrated into *NURS121 Foundations of Nursing Care* which is a core subject for pre-registration Bachelor of Nursing students. It is an annual subject which includes lectures, tutorials, nursing laboratories and 160 hours of clinical practicum.

The following series of learning activities and assessment tasks relate to information literacy.

Learning Activity 1

In the scheduled lecture time of Week 2 Autumn Session the Faculty Librarian provides a lecture to all the *NURS121* students on how to read a bibliographic citation and understand the components of a citation in order to find a library item. In Week 2 students have scheduled time in the library to undertake Assessment Task 1. The tutors are available assist with any questions and the Faculty Librarian is 'on alert' for troubleshooting activities during this scheduled library time.

Assessment Task 1

Each student is given a list of items which the academic staff and Faculty Librarian have checked are held in the library. There are a number of different lists so that students are compelled to carry out at least part of this task on their own. Students are not given the full citation except perhaps for those relating to journal articles. Instead they are given clues. For example for one item the student may only be provided with the call number. For another item only the author's full name and the year of publication may be provided. Another item may be a government report for which only the title and year of publication is specified. The Faculty Librarian and academic staff have structured

this assignment so that students need to find items in parts of the library including in current serials, bound serials, various parts of the monograph collection including folios, audiovisual collection and microfiche as well as the reference collection and closed reserve. Because this library research exercise is framed as a series of questions, it requires students to analyse, synthesise, and evaluate information rather than merely to record it for later use (The University of Wollongong, Educational Handbook, 1995, Section A p.3).

The assessment task which students submit requires them to compile a reference list of the items (using the Harvard reference system as documented in the Department of Nursing Assessment Handbook) and indicate whether the item is currently in the library, where in the library each item is located (current serials, reference section etc.), the potential usefulness of the item to the student's studies and an indication of how the student would go about locating those items which were not on the library shelves (library recall, look in photocopy room, ask reference desk for help, etc.).

The items students locate all relate to content they are dealing with in the *NURS121* classes at that point in time. Academic staff teach temperature, pulse, respiration and blood pressure assessment in the Autumn Session nursing laboratories and students complete worksheets which provide background information on the related anatomy and physiology. For students the most incisive information needs are to do with research for a project or assignment. So it is appropriate that for this Assessment Task 1 and the associated activities to relate to the current subject content of patient assessment with particular emphasis on the observation of patient vital signs.

Learning Activity 2

A second Information Literacy lecture is provided in week 5 of Autumn Session. The title of this lecture is 'Search Strategies'. The Faculty Librarian demonstrates the development and implementation of a search strategy related to *NURS121* assignment topics. This lecture can involve reinforcement of certain aspects of the use of the library catalogue, use of databases and indexes. The tutors allocate tutorial time to the development of a search strategy and there is structured time available in the library. During the structured

library time the Faculty Librarian and tutor are available to support students in the development of the search strategy.

Assessment Task 2

The assessment task students complete involves:

1. Submitting a copy of a library search strategy developed in Learning Activity 2 and a critique of that strategy. In other words, students will know in advance they are not expected to master all the intricacies of library or database searching by week 5 of Autumn Session. However, students are expected to develop an ability to evaluate their own intellectual processes and plan strategies to become more effective and efficient users of resources. (Including their own time.)
2. Locating and reading ten (10) of the items found in the library as a result of the search strategy. Writing a reference list of these items in the Harvard Style format.

Learning Activity 3

Critical thinking and critical analysis exercises are conducted in the tutorials in weeks 2 - 6 to support the learning activities and assessment tasks. Students will be provided with short articles from mainstream magazines, such as Women's Weekly, Family Circle or Cleo, and asked to describe the article in general terms then list as many positive features (strengths) and as many negative features (weaknesses) as they can. Once the list of strengths and weaknesses has been developed students are then assisted to develop their 'point-form' notes into sentences and paragraphs. As a result of this exercise students are able to write one general summary statement of their observations about the article and support this summary statement with reference to the strengths and weaknesses they have identified. Students therefore develop and consolidate skills in cultivating and sustaining arguments based on evidence and logic.

Assessment Task 3

This involves students in undertaking a critical analysis of five of the items found as a result of the above search. Students will utilise the skills of criticism and analysis developed in Learning Activity 3 to critically analyse five of the resources located as a result of

Learning Activity 2. This assignment is submitted in 'essay' format and constitutes a preliminary version of possible future literature reviews. Assignment presentation and the fundamental aspects of essay writing are dealt with in the prerequisite subject *NURS122 Professional Studies*.

The Department of Nursing considers that effective ways of helping students to learn to become discerning users of information and research need to be found. This information literacy skills program is likely to be successful because:

- the skills are incremental
- the activities are purposeful
- the learning activities, assessment tasks and subject content are integrated
- the activities and assessment tasks are structured in such a way as to assist the student to experience success (therefore become confident)
- students are rewarded for learning because the development of information literacy skills is directly and transparently linked to successful achievement of assessment tasks.

Ongoing Evaluation

Prior to implementation of the information literacy program, students are pre-tested as to their knowledge of information searching strategies and the conventions of referencing and bibliographic citation. Students will be asked to evaluate the program and to undertake a post-test at the end of Autumn session. The results of this evaluation will be used to modify the 1998 program and will appear in Overview. The staff involved in this program recognise that it will be very difficult or well nigh impossible to evaluate some of the desired student outcomes. It is hoped that the skills and attitudes fostered in this program will have lasting effects that might be seen in the form of senior Bachelor of Nursing students who are capable of conducting independent research; submission of assignments which display a sophisticated appreciation of information sources and the eventual eradication of library-phobia amongst Bachelor of Nursing students. Advice on ways of evaluating the impact of this program on the nurturing of future registered nurses as life-

long learners will be gratefully received.

Conclusion

In order to become evidence-based practitioners, nurses need to be able to explain the scientific basis and rationale for their clinical practice; critically reflect upon current health care practice; understand that health interventions should be derived from the principles of evidence-based practice; demonstrate an awareness of the relevance of research to practice; demonstrate skills in accessing relevant research; and critically appraise available research, using appropriate criteria for determining the validity and applicability of research findings. The information literacy program described above, will raise student's awareness of available research, assist students to develop entry level skills in accessing available research and appreciating research findings. Rather than leaving

students to stumble around the labyrinth of information, the program provides the foundations for a systematic approach to life long learning.

References:

Evidence-Based Medicine Working Group 1992, 'Evidence-based medicine. A new approach to teaching the practice of medicine', *Journal of American Medical Association*, vol. 268, no. 17, pp. 2420-2425.

The University of Wollongong, 1995, *Educational Handbook (The Blue Book)*, Section A. p. 3.

Acknowledgment:

The activities within this program have been developed by the team involved in *NURS121*, of which Patrick Crookes is an active member.

YOU PROBABLY NEED HELP WITH STATISTICS

Whether you conduct quantitative research yourself, or are supervising a research student, you will find that the service courses in statistics which you did years ago have left you ill-prepared for the task before you. There is nothing shameful about this; would one or two courses in your discipline make someone else as expert in it as you are?

However, the Statistical Consulting Service, based in the Department of Applied Statistics, is here to assist you. We will advise on:

- planning an investigation so that your research hypotheses are formulated clearly, the data you collect are appropriate, and the variability in the data is minimised;
- how to collect the data, and to prepare them for analysis in a computer;
- the most appropriate form of analysis, and which statistical package to use;
- how to interpret the output from the package; and
- how best to present the conclusions you draw from the analysis.

The service is funded principally by the Office of Research. As a consequence, if your research (or that

of a student you supervise) does not have external funding, you will receive up to ten hours of FREE advice per calendar year. If you receive external funds, the advice is still available, but you have to meet the cost. Naturally, there are some conditions attached. For information about these, ring Ken Russell on extn 3815. To make an appointment, please ring Kerrie Gamble on extn 4308.

The service is available throughout the year, including December and February when most researchers are hard at work. You should take advantage of it. Some points to consider:

- we don't expect you to be a statistical genius;
- we won't talk down to you or use lots of statistical jargon;
- we won't use a complicated analysis if something simple will do the job.

And one final point ... Many people think that you only seek advice when it is time to analyse your data. This is WRONG!!! No amount of statistical sophistication can salvage a poor investigation. You should see the consultant at the very beginning of your research, so that s/he can help ensure that it is properly planned.